

Midterm Review

Key

Math 10

Name: _____ Class: _____ Date: _____ ID: A ID: A

Midterm Review Package

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- Convert 7 yd to inches.
A) 21 in. B) 252 in. C) 43 in. D) 84 in.

- Convert 12 565 ft. to miles, yards, and feet.
A) 6 mi. 167 yd. 1 ft. B) 2 mi. 55 yd. 25 ft. C) 2 mi. 668 yd. 1 ft. D) 6 mi. 668 yd. 1 ft.

- A map of Alberta has a scale of 1:1 505 000. The distance on the map between Calgary and Red Deer is $3\frac{1}{4}$ in. What is this distance to the nearest mile?
A) 232 mi. B) 77 mi. C) 308 mi. D) 26 mi.

- Which referent could you use for 1 km?
A) The distance equal to $2\frac{1}{2}$ laps on an oval running track B) The length of an iPod C) The length of a snowboard D) The length of your arm span

- Which SI unit is most appropriate for measuring the width of your desk?
A) Kilometres B) Centimetres C) Metres D) Millimetres

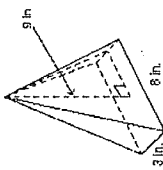
- A penalty box on a soccer field measures 44 yd. by 18 yd. What are these dimensions to the nearest tenth of a metre?
A) 39.6 m by 16.2 m B) 47.7 m by 17.6 m C) 39.6 m by 16.2 m D) 47.7 m by 17.6 m

- Convert 165 cm to feet and the nearest inch.
A) 5 ft. 8 in. B) 6 ft. 6 in. C) 5 ft. 4 in. D) 5 ft. 6 in.

- Quentin is 5 ft. 1 in. tall. What is his height to the nearest centimetre?
A) 148 cm B) 163 cm C) 153 cm D) 151 cm

- The surface area of a right cone is 400.2 m². The radius of the cone is 6.0 m. Determine the height of the cone to the nearest metre.
A) 14 m B) 16 m C) 15 m D) 13 m

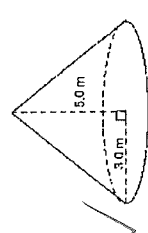
- Calculate the volume of this right rectangular pyramid to the nearest cubic inch.



$$\frac{1}{3} (3 \times 8 \times 9 \text{ in}) = 72$$

- A) 216 cubic inches B) 72 cubic inches C) 64 cubic inches D) 78 cubic inches

- Calculate the volume of this right cone to the nearest tenth of a cubic metre.



$$\frac{1}{3} (\pi (3)^2 (5)) = 47.1$$

- A) 141.4 m³ B) 47.1 m³ C) 49.3 m³ D) 55.0 m³

- The radius of a volleyball is approximately 11 cm. Determine the surface area of a volleyball to the nearest square centimetre.

- A) 6082 cm² B) 1521 cm² C) 380 cm² D) 5575 cm²

- A hemisphere has radius 11.6 cm. What is the surface area of the hemisphere to the nearest tenth of a square centimetre?

$$4\pi r^2 = 4\pi (11.6)^2 = 1684.2$$

$$1684.2 \div 2 = 842.1$$

- A) 1268.2 cm² B) 3269.1 cm² C) 918.4 cm² D) 845.5 cm²

- A hemisphere has radius 11.4 cm. What is the volume of the hemisphere to the nearest tenth of a cubic centimetre?

$$\frac{2}{3} \pi r^3 = \frac{2}{3} \pi (11.4)^3 = 3025.9$$

- A) 6205.9 cm³ B) 3102.9 cm³ C) 1633.1 cm³ D) 1224.8 cm³

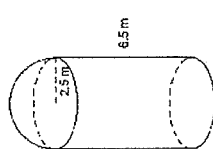
- A flat basketball is inflated using a hand pump. The pump inflates the ball at a rate of 230 cm³ per pump, to a diameter of 23.5 cm. How many pumps are required to inflate the ball?

$$V = \frac{4}{3} \pi r^3 = \frac{4}{3} \pi (11.75)^3 = 6795$$

$$6795 \div 230 = 29.5$$

- A) 27 pumps B) 28 pumps C) 30 pumps D) 29 pumps

- Determine the surface area of this composite object, which is a right cylinder and a hemisphere, to the nearest tenth of a square metre.



$$SA = \frac{1}{2} (4\pi r^2) + \pi d h + \pi r^2$$

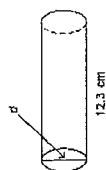
$$= 2\pi (2.5)^2 + \pi (5)(6.5) + \pi (2.5)^2$$

$$= 16 \text{ m}^2$$

- A) 200.3 m² B) 180.6 m² C) 141.4 m² D) 161.0 m²

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17. The curved surface area of a cylindrical pipe is 60.1 cm^2 . Calculate the diameter of the pipe, d , to the nearest tenth of a centimetre.

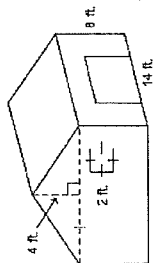


$$\pi d \times h = 60.1 \text{ cm}^2$$

$$d = \frac{60.1}{\pi(12.3)} = 1.555319$$

- A) 1.2 cm B) 0.8 cm C) 1.6 cm D) 2.5 cm

18. A barn is a composite object formed by a right rectangular prism with a right triangular prism as its roof. The square window on the barn has side length 2 ft. Farmer Fred wants to paint the entire surface of his barn, including the door, but not the window. Determine the surface area to be painted to the nearest square foot.



$$\Delta: 2 \times \frac{1}{2} \times 12 \times 4 = 48$$

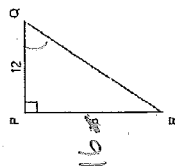
$$\text{roof: } 2 \times 14 \times \sqrt{6^2 + 4^2} = 201.9$$

$$\text{side wall: } 2 \times 14 \times 8 + 2 \times 12 \times 8 - 2 \times 2 = 412$$

$$= 661.9$$

- A) 666 square feet B) 460 square feet C) 662 square feet D) 614 square feet

19. Determine $\tan Q$ and $\tan R$.



$$\tan Q = \frac{16}{12} = 1.3\bar{3}$$

$$\tan R = \frac{12}{16} = 0.75$$

- A) $\tan Q = 0.428571$; $\tan R = 0.75$ B) $\tan Q = 1.3$; $\tan R = 0.75$ C) $\tan Q = 1.3$; $\tan R = 0.571428$ D) $\tan Q = 0.75$; $\tan R = 1.3$

20. Calculate the angle of inclination, to the nearest tenth of a degree, of a road with a grade of 22%.

- A) 77.3° B) 77.6° C) 12.4° D) 12.7°



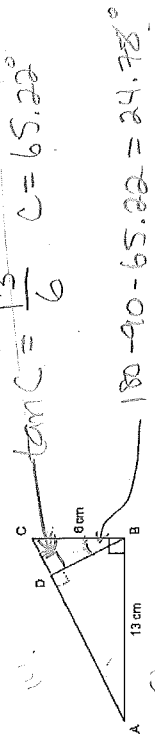
$$\tan \theta = 0.22$$

$$\theta = 12.4^\circ$$

3

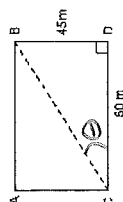
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21. Determine the measure of $\angle DBC$ to the nearest tenth of a degree.



- A) 27.5° B) 24.8° C) 65.2° D) 62.5°

22. Rhonda walked diagonally across a rectangular playground with dimensions 60 m by 45 m. She started at point C. Determine the angle, to the nearest degree, between her path and the longest side of the playground.

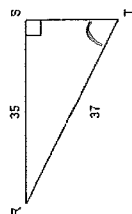


$$\tan \theta = \frac{45}{60}$$

$$\theta = 37^\circ$$

- A) 37° B) 41° C) 53° D) 49°

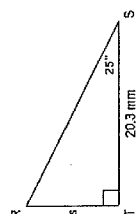
23. Determine the tangent ratio for $\angle T$.



$$\tan T = \frac{35}{12}$$

- A) $\frac{12}{35}$ B) $\frac{37}{35}$ C) $\frac{35}{37}$ D) $\frac{35}{12}$

24. Determine the length of side s to the nearest tenth of a millimetre.



- A) 18.4 mm B) 43.5 mm C) 8.6 mm D) 9.5 mm

$$\tan 25^\circ = \frac{s}{20.3 \text{ mm}}$$

$$s = 9.46$$

4

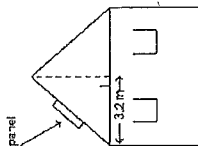
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25. The angle of inclination of a solar panel on the roof of a cottage is 57° . Determine the height of the roof, to the nearest tenth of a metre.

$$\tan 57^\circ = \frac{h}{3.2}$$

$$h =$$



- A) 3.8 m B) 4.9 m C) 2.1 m D) 5.9 m

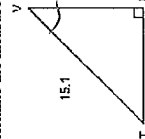
26. A helicopter is hovering 200 m above a road. A car stopped on the side of the road is 300 m from the helicopter. What is the angle of elevation of the helicopter measured from the car, to the nearest degree?

$$\sin \theta = \frac{200}{300}$$

- A) 56° B) 48° C) 42° D) 34°

27. Determine the measure of $\angle V$ to the nearest tenth of a degree.

$$\cos V = \frac{8.9}{15.1}$$

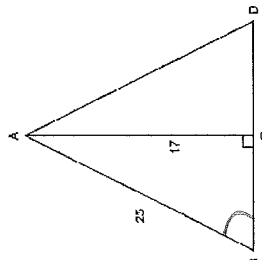


- A) 59.5° B) 36.1° C) 30.5° D) 53.9°

28. Determine the measure of $\angle B$ to the nearest tenth of a degree.

$$\sin B = \frac{17}{25}$$

$$B =$$



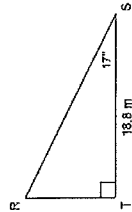
- A) 94.3° B) 34.2° C) 42.8° D) 47.2°

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29. Determine the length of RS to the nearest tenth of a metre.

$$\cos 17^\circ = \frac{18.8}{RS}$$



- A) 19.7 m B) 5.7 m C) 18.0 m D) 64.3 m

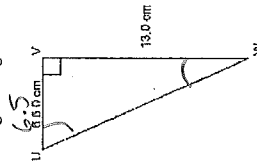
30. A ladder is 8.0 m long. It leans against a wall. The angle of inclination of the ladder is 72° . To the nearest tenth of a metre, how far from the wall is the base of the ladder?



$$\cos 72^\circ = \frac{x}{8}$$

- A) 2.6 m B) 7.6 m C) 25.9 m D) 2.5 m

31. Solve this right triangle. Give the measures to the nearest tenth.



$$\tan U = \frac{13}{6.5}$$

$$\tan W = \frac{6.5}{13}$$

$$UW^2 = 6.5^2 + 13^2$$

- A) $\angle U = 26.6^\circ$; $\angle W = 63.4^\circ$; $UV = 14.5$ cm B) $\angle U = 63.4^\circ$; $\angle W = 26.6^\circ$; $UV = 14.5$ cm
C) $\angle U = 63.4^\circ$; $\angle W = 26.6^\circ$; $UV = 29.1$ cm D) $\angle U = 26.6^\circ$; $\angle W = 63.4^\circ$; $UV = 29.1$ cm

32. An architect draws this diagram of a wheelchair entrance ramp for a building. Determine the angle of inclination of the ramp to the nearest tenth of a degree.



$$\tan \theta = \frac{0.4}{7}$$

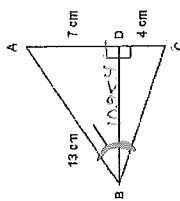
- A) 86.7° B) 29.7° C) 3.3° D) 5.1°

$\frac{284}{2142} = \frac{210}{5105}$
 $\frac{210}{5105} = \frac{21}{510.5}$
 $\frac{21}{510.5} = \frac{21}{510.5}$
 $\frac{21}{510.5} = \frac{21}{510.5}$

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33. Calculate the measure of $\angle ABC$ to the nearest tenth of a degree.



$13^2 - 7^2 = BD^2 \quad BD = 10.954$
 $\sin \angle ABD = \frac{7}{13} \quad \angle ABD = 32.58^\circ$
 $\text{for } \angle DBC = \frac{4}{10.954} = \angle DBC = 20.06^\circ$

A) 47.7° B) 102.5° C) 77.5° D) 52.6°

34. Determine the greatest common factor of 84, 210, and 336.

A) 14 B) 1680 C) 21 D) 42

35. Determine the least common multiple of 48, 72, and 108.

A) 432 B) 216 C) 31 104 D) 12

36. Determine the cube root of 42,875.

A) 1225 B) 4763.9 C) 207.1 D) 35

37. Determine the perfect square whole number closest to 7293.

A) 7292 B) 7225 C) 6859 D) 7396

38. Determine the side length of this square.



A) 63 cm B) 15.83 cm C) 992.25 cm D) 441 cm

39. Factor the trinomial $-33b^2 + 99b + 77$.

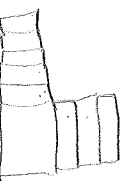
A) $-11(3b^2 - 9b + 7)$ B) $-33(b^2 - 3b - 7)$ C) $11(3b^2 - 9b - 7)$ D) $33(-b^2 + 27b + 7)$

40. Factor the trinomial $-42x^3y^6 - 24x^4y^5 - 54x^5y^4$.

A) $6x^4y^5(-7xy - 4 - 9y^2)$ B) $-6x^3y^4(7x^2y + 4x + 9y^2)$ C) $-3x^3y^3(14x^2y + 8x + 18y^2)$ D) $-6x^3(7x^2y^6 + 4xy^5 + 9y^4)$

41. Which of the following trinomials can be represented by a rectangle? Use algebra tiles to check.

A) $y^2 + 3x + 12$ B) $y^2 + 12y + 5$ C) $y^2 + 8y + 15$ D) $y^2 + 14y + 3$



42. Expand and simplify: $(p+3)(p-7)$

A) $p^2 - 4p - 21$ B) $p^2 - 10p - 21$ C) $p^2 + 10p - 21$ D) $p^2 + 4p - 21$

$p^2 - 4p - 21$

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43. Factor: $v^2 - 13v + 36$

A) $(v+3)(v+12)$ B) $(v-3)(v-12)$ C) $(v-4)(v-9)$ D) $(v+4)(v+9)$

44. Factor: $-24 - 2x + x^2$

A) $(6+x)(-4+x)$ B) $(3+x)(-8+x)$ C) $(-3+x)(8+x)$ D) $(-6+x)(4+x)$

45. Factor: $4d^2 - 28d + 240$

A) $-4(d+3)(d-20)$ B) $-4(d+5)(d-12)$ C) $-4(d-3)(d+20)$ D) $-4(d-5)(d+12)$

46. Factor: $7n^2 + 104n - 15$

A) $(7n-1)(n+15)$ B) $(7n+1)(n-15)$ C) $(7n+15)(n-1)$ D) $(7n-15)(n+1)$

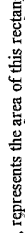
47. Expand and simplify: $(5m-3n)^2$

A) $25m^2 - 9n^2$ B) $25m^2 - 15mn + 9n^2$ C) $25m^2 - 30mn + 9n^2$ D) $25m^2 + 9n^2$

48. Expand and simplify: $(4d-1)(5d^2+12d-3)$

A) $20d^3 + 53d^2 + 3$ B) $20d^3 + 48d^2 - 12d + 3$ C) $20d^3 + 43d^2 - 24d + 3$ D) $20d^3 + 43d^2 + 3$

49. Which polynomial, written in simplified form, represents the area of this rectangle?



$(8x-4y)(x-5y)$

8x-4y

x-5y

A) $8x^2 - 36xy - 20y^2$ B) $8x^2 + 22xy - 20y^2$ C) $16x^2 + 72xy - 40y^2$ D) $8x^2 + 36xy - 20y^2$

50. Expand and simplify: $(2x^2 + 5x - 6)(5x^2 - 2x + 3)$

A) $10x^4 + 21x^3 - 34x^2 + 27x - 18$ B) $10x^4 + 21x^3 - 34x^2 - 3x + 18$ C) $10x^4 + 21x^3 - 24x^2 + 27x + 18$ D) $10x^4 - 29x^3 - 34x^2 + 27x - 18$

51. Expand and simplify: $(3c+2)(2c-7)+3(-2c+1)(7c-5)$

A) $-36c^2 + 8c - 29$ B) $-36c^2 + 34c - 29$ C) $-36c^2 - 8c - 19$ D) $-36c^2 - 8c - 29$

52. Factor: $16p^2 - 81q^2$

A) $(4p-9q)^2$ B) $(4p+9q)^2$ C) $(16p-9q)(p-9q)$ D) $(4p+9q)(4p-9q)$

53. Identify the radicand of $\sqrt[4]{4^4}$.

A) 4 B) 4^4 C) 6 D) 8

54. Evaluate $\sqrt[3]{-64}$.

A) -4 B) impossible C) -12.8 D) 4

55. Write an equivalent form of $\frac{4}{9}$ as a square root.

A) $\sqrt{\frac{16}{81}}$ B) $\sqrt[3]{\frac{64}{729}}$ C) $\sqrt{\frac{8}{81}}$ D) $\sqrt{\frac{16}{81}}$

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56. Order these numbers from least to greatest: $\sqrt[3]{75}, \sqrt{14}, \sqrt[3]{100}, \sqrt{17}, \sqrt[3]{30}$
 A) $\sqrt[3]{75}, \sqrt[3]{100}, \sqrt{14}, \sqrt[3]{30}, \sqrt{17}$ B) $\sqrt[3]{30}, \sqrt{14}, \sqrt{17}, \sqrt[3]{75}, \sqrt[3]{100}$ C) $\sqrt{100}, \sqrt[3]{30}, \sqrt{14}, \sqrt{17}, \sqrt[3]{75}$
 D) $\sqrt{17}, \sqrt[3]{75}, \sqrt[3]{100}, \sqrt{14}, \sqrt[3]{30}$

57. To which set(s) of numbers does $-\sqrt{25}$ belong?

I	Natural	<input checked="" type="checkbox"/>
II	Integer	<input checked="" type="checkbox"/>
III	Rational	<input checked="" type="checkbox"/>
IV	Irrational	<input type="checkbox"/>

58. Write $\sqrt[3]{80}$ in simplest form.
 A) $10\sqrt[3]{2}$ B) $2\sqrt[3]{10}$ C) $8\sqrt[3]{10}$ D) $4\sqrt[3]{5}$

59. Write $3\sqrt[3]{2}$ as an entire radical.
 A) $\sqrt[3]{48}$ B) $\sqrt[3]{18}$ C) $\sqrt[3]{162}$ D) $\sqrt[3]{36}$

60. Write $7\sqrt{14}$ as an entire radical.
 A) $\sqrt{9604}$ B) $\sqrt{98}$ C) $\sqrt{686}$ D) $\sqrt{1372}$

61. Evaluate $(-27)^{\frac{1}{3}}$ without using a calculator.
 A) -3 B) 3 C) -9 D) does not exist

62. Evaluate $\left(\frac{125}{8}\right)^{\frac{1}{3}}$.
 A) $\frac{625}{4}$ B) 7.858 958... C) $\frac{625}{16}$ D) $\frac{625}{8}$

63. Arrange these numbers in order from greatest to least.
 $9^{\frac{2}{3}}, \sqrt[3]{9}, 9^{\frac{1}{2}}, \sqrt{9^2}, 9^{1.2}$

- A) $\sqrt[3]{9}, \sqrt{9^2}, 9^{\frac{1}{2}}, 9^{\frac{2}{3}}, \sqrt{9}$ B) $\sqrt{9^2}, 9^{\frac{1}{2}}, 9^{\frac{2}{3}}, \sqrt[3]{9}, 9$ C) $\sqrt{9^2}, 9^{1.2}, \sqrt[3]{9}, 9^{\frac{2}{3}}, 9^{\frac{1}{2}}$ D) $9^{\frac{2}{3}}, 9^{\frac{1}{2}}, \sqrt[3]{9}, \sqrt{9^2}, 9^{1.2}$

64. Evaluate $64^{\frac{1}{3}}$ without using a calculator.
 A) $\frac{1}{256}$ B) $\frac{3}{256}$ C) $\frac{1}{-256}$ D) -256

$$\frac{1}{64^{\frac{1}{3}}} = \frac{1}{\sqrt[3]{64}} = \frac{1}{4} = \frac{1}{256}$$

Key

65. Which power with a negative exponent is equivalent to $\frac{125}{512}$?

- A) $\left(\frac{8}{5}\right)^{-3}$ B) $\left(\frac{5}{8}\right)^{-2}$ C) $\left(\frac{8}{5}\right)^{-2}$ D) $\left(\frac{5}{8}\right)^{-3}$

66. Given that $6^{10} = 60\,466\,176$, what is 6^{-10} ?

- A) -6 B) $-\frac{1}{6}$ C) $-\frac{1}{60\,466\,176}$ D) $\frac{1}{60\,466\,176}$

67. Simplify $(64a^{12}b^{15})^{\frac{2}{3}}$.

- A) $16a^8b^{10}$ B) $16a^8b^{10}$ C) $64a^8b^{10}$ D) $16a^8b^{25}$

68. Simplify $\left(\frac{36x^3y^2}{4x^2y^{-1}}\right)^{\frac{1}{2}}$.

- A) $3x^2y^2$ B) $\frac{3y^2}{x^2}$ C) $\frac{3y}{x^2}$ D) $\frac{3y^2}{x^6}$

$$\left(\frac{9y^4}{x^4}\right)^{\frac{1}{2}} = \frac{3y^2}{x^2}$$

69. Evaluate $(a^{-4}b^{-3})(a^3b^{-4})$ for $a = -1$ and $b = 3$.

- A) $-\frac{1}{2187}$ B) $\frac{1}{2187}$ C) 531 441 D) -2187

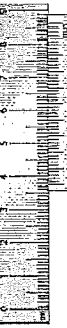
70. What is Canada's official measurement system?

- A) avoirdupois system B) imperial system C) SI system D) US system

71. The basic unit of length in the SI system is the

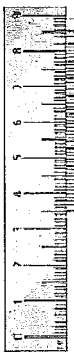
- A) centimetre B) kilometre C) metre D) millimetre

72. The reading shown on the caliper image below is



- A) 34.66 mm B) 36.46 mm C) 37.46 mm D) 40.26 mm

73. What measurement is shown on the imperial caliper?



- A) 92.00 in. B) 76.00 in. C) 40.00 in. D) 37.00 in.

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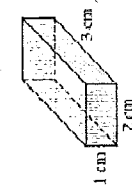
74. It is 851 km from Whitehorse to Inuvik. How long would it take to fly from Whitehorse to Inuvik in a Cessna 441 Beaver at a speed of 143 mph, if you did not have to stop to refuel?

$$851 \text{ km} \times \frac{1 \text{ mi}}{1.609 \text{ km}} = \text{--- miles}$$

$$t = \frac{d}{v}$$

$$= \frac{\text{--- miles}}{143 \text{ mph}} = \text{--- hours}$$

75. Calculate the surface area of the right prism.



$$2(1 \times 2) + 2(1 \times 3) + 2(2 \times 3)$$

- A) 6 cm² B) 22 cm² C) 28 cm² D) 36 cm²

76. Evaluate $\tan 45^\circ$.

- A) -1 B) 0 C) 1 D) undefined

77. Choose the correct formula for the cosine ratio of $\angle A$.

- A) $\cos A = \frac{\text{length of side opposite } \angle A}{\text{length of side adjacent to } \angle A}$ B) $\cos A = \frac{\text{length of hypotenuse}}{\text{length of side adjacent to } \angle A}$
C) $\cos A = \frac{\text{length of side opposite } \angle A}{\text{length of hypotenuse}}$ D) $\cos A = \frac{\text{length of side adjacent to } \angle A}{\text{length of hypotenuse}}$

78. Evaluate $\cos 11^\circ$, to four decimal places.

- A) 0.9816 B) 0.1944 C) 0.1908 D) 0.0044

79. Evaluate 0.1^4 .

- A) 0.4 B) 0.01 C) 0.001 D) 0.0001

80. What is $\frac{4^4}{2^6 - 4}$?

- A) $\frac{64}{17}$ B) 4 C) -2 D) $\frac{64}{15}$

81. What is the next number in the sequence $3^2, 3^1, 3^0, \dots$?

- A) -1 B) 3^{-2} C) $\frac{1}{3}$ D) 1

82. Which power is equivalent to $\sqrt[4]{160^3}$?

- A) $160^{\frac{3}{4}}$ B) $160^{\frac{4}{3}}$ C) $\frac{1}{160^{\frac{3}{4}}}$ D) $\frac{1}{160^{\frac{4}{3}}}$

83. Simplify $[(5^3)^2]^{\frac{1}{3}}$.

- A) 25 B) 5 C) $\sqrt[3]{25}$ D) $\sqrt[3]{5^{18}}$

$$\frac{1}{5} \times \frac{1}{5} \times \frac{1}{5} = \frac{1}{125}$$

$$5 \times 5 \times 5 = 125$$

$$= \sqrt[3]{125} = 5$$

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Name: _____

ID: A

84. Order these irrational numbers from least to greatest: $3\sqrt{18}$, $2\sqrt{30}$, $\sqrt[3]{84}$, $4\sqrt{8}$.
A) $4\sqrt{8}$, $3\sqrt{18}$, $2\sqrt{30}$, $\sqrt[3]{84}$ B) $2\sqrt{30}$, $\sqrt[3]{84}$, $4\sqrt{8}$, $3\sqrt{18}$ C) $\sqrt[3]{84}$, $4\sqrt{8}$, $2\sqrt{30}$, $3\sqrt{18}$ D) $3\sqrt{18}$, $2\sqrt{30}$, $4\sqrt{8}$, $3\sqrt{18}$

85. Which expression is an example of a difference of squares?

- A) $x^2 - 21$ B) $4x + 16$ C) $9x - 64$ D) $25x^2 - 81$

86. Which value of k makes the trinomial $x^2 + 12x + k$ a perfect square?

- A) 12 B) 144 C) 36 D) 18

87. Which expression is equal to $(a - b)^2$?

- A) $a^2 - ab + b^2$ B) $a^2 - 2ab + b^2$ C) $a^2 + ab + b^2$ D) $a^2 + 2ab + b^2$

88. Which of the following pairs of integers has a product of 33 and a sum of 14?

- A) 11 and -3 B) -11 and 3 C) 11 and 3 D) -11 and -3

89. Which of the following pairs of integers has a product of 63 and a sum of -16?

- A) 7 and 9 B) 7 and -9 C) -7 and -9 D) -7 and 9

90. Which of the following expressions cannot be factored?

- A) $3x^2 - 13x - 10$ B) $2x^2 + 9x + 10$ C) $2x^2 - 3x + 10$ D) $x^2 - 3x + 10$

91. What is the volume of a circular pool with a diameter of 10 m and a depth of 5 m?

- A) 47 m³ B) 157 m³ C) 393 m³ D) 1571 m³

92. Simplify $\frac{(r^2)^3}{r^{-4}}$ using positive exponents only.

- A) r^4 B) r^{10} C) r^2 D) r

93. Which expression has the largest value?

- A) 4^{-1} B) 3^{-3} C) $\left(\frac{3}{4}\right)^{-2}$ D) $\left(\frac{1}{4}\right)^{-3}$

94. What is the product of $(x + 3)$ and $(x + 4)$?

- A) $x^2 + 7x + 12$ B) $x^2 + 12x + 7$ C) $x^2 + 12$ D) $x^2 + 7$

95. The expression $\frac{x^2 - 9}{x^4 - 18x^2 + 81}$ after simplifying fully is

- A) $\frac{1}{(x+3)(x-3)}$ B) $(x+3)(x-3)$ C) $\frac{(x+3)(x-3)}{(x^2-9)^2}$ D) $\frac{(x^2-9)^2}{(x+3)(x-3)}$

96. Choose the factored form of $yx + yz + yz + zw + zw$.

- A) $(y-w)(x-z)$ B) $(x-w)(z-y)$ C) $(x+y)(z+w)$ D) $(y+w)(x+z)$

$$yx + yz + yz + zw + zw$$

$$y(x+z) + w(x+z)$$

$$(x+z)(y+w)$$

$$V = \pi r^2(d)$$

$$= \pi(5^2)(5)$$

$$\frac{(x-3)(x+3)}{(x-3)(x+3)(x-3)(x+3)}$$